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(21) International Application Number: PCT/NO99/00368 (22) International Filing Date: 7 December 1999 (07.12.99) (30) Priority Data: 19985747 8 December 1998 (08.12.98) NO (71) Applicant (for all designated States except US): TELEFONAK- TIEBOLAGET LM ERICSSON [SE/SE]; S-126 25 Stock- holm (SE). (72) Inventors; and (75) Inventors/Applicants (for US only): DYBEDOKKEN, Bjørn, Magne [NO/NO]; Nedre Toppenhaug 86, N-1353 Bærums Verk (NO). TØNNESLAND, Sverre [NO/NO]; Etterstad- sletta 76, N-0659 Oslo (NO). (74) Agent: OSLO PATENTKONTOR AS; Postboks 7007 M, N-0306 Oslo (NO).		(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: METHOD FOR PASSING INFORMATION BETWEEN A LOCAL EXCHANGE AND A USER/TERMINAL		
(57) Abstract		
<p>The present invention relates to a method for passing information between a local exchange and a user/terminal, the language used for presenting the information being chosen in the terminal and the local exchange, and in order to avoid that messages generated by the terminal and the text generated by the local exchange are presented in different languages the present invention suggests a method to synchronize the language in the terminal and the language of the local exchange, or vice versa, wherein are used predefined codes for each of the languages involved.</p>		

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METHOD FOR PASSING INFORMATION BETWEEN A LOCAL EXCHANGE
AND A USER/TERMINAL

Field of the invention

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The present invention relates to a method for passing information between a local exchange and a user/terminal of the type as stated in the preamble of the enclosed patent claim 1.

10

The present invention is primarily related to cordless (DECT) telecommunication networks, but may also be applicable for other cellular and fixed networks.

15

Teknisk bakgrunn

The problem area

20

Many modern telephone exchanges and terminals have the possibility to pass information to the users in the form of text messages. The displayed information is either generated locally in the terminal, e.g. to inform the user of an incoming call, menu options etc., or generated by the local exchange e.g. to inform the user of available services, message waiting etc.

25

30

The language used for presenting the information may be chosen in the terminal and in the local exchange. If different languages are chosen in the terminal and the local exchange, there will be a mismatch in the displayed messages. There is no solution that synchronises the language to be generated locally in the terminal and the language that the local exchange uses.

Known solutions

One can choose the language for displaying locally generated messages in many modern terminals. One can also choose the language for displaying text generated by most
5 modern telephone exchanges.

There does not, however, exist any system which synchronizes the language in the terminal with the language of the local exchange, or vice versa.

10

Problems with konwn solutions

The problem with existing solutions is that messages generated by the terminal and the text generated by the local exchange may differ. Typically, the individual user
15 can select the language of messages generated by the terminal, but not the messages generated by the local exchange. In a multi-lingual environment, it may be difficult to pass on information that all users understand.

20

Further prior art

There are also previously known systems comprising complex messaging and recorded voice messaging with
25 translation capabilities.

However, in some of these prior art systems it seems unlikely that the language code can be changeable at all.

30 US patent publication 5,524,137 (Rhee) relates to a multi-media messaging system, which system is acting more as a language translator. Consequently, this prior art teaching is silent about how to synchronize a local network and the terminal connected thereto, to use the
35 same language. Further, the prior system is also silent about having such a same language supported initially, and have the various messages stored in their database,

so that no translation mechanism needs to be involved.

WO 98/27759 (Nokia/Palovita) relates to a method of forwarding voice messages to a subscriber, in which case
5 the language indication for the specific user is permanently stored as part of the user data. This prior art technique is broadly used in any system with language support, but is not relevant in connection with the present invention.

10

EP 0 742 676 A2 (Siemens/Dzuban) relates to a method for transferring messages from one user to another, wherein is used a form of permanent code for the language that one of the user supports, which code is distributed in
15 the system based on the mobile user location.

Consequently, there is no indication in this prior art teaching about any change of code.

20 US 5,440,615 (Caccuro et al.) relates to language selection for voice messaging system, comprising an intelligent recorded voice announcement system that is based on the incoming information from the called party answer in the appropriate language. However, this
25 publication is silent about various text exchange between different systems, such as status information, call progress messages, short message services, or similar.

US 5,675,817 (Moughanni et al.) relates to language
30 translating pager and method therefor, wherein translation capabilities are included. However, neither does this publication give any instructions for synchronizing the language used in the end user terminal and the local network, in order to keep the consistency
35 in these two units.

Objects of the invention

The main object of the present invention is to provide a method for automatically setting the same language on the terminal as in a local exchange.

Another object of the present invention is to provide a method whereby this automatic setting is effected in a simple, reliable and expedient manner.

Still another object of the present invention is to provide a method whereby all messages are presented in one language, and whereby the language can be chosen for each user/terminal.

A further object of the present invention is to provide a method for synchronizing the language used in the end user terminal and the local network, for thereby keeping the consistency therebetween.

Yet another object of the present invention is to provide a method which is specifically related to various text exchanges between different systems, such as status information, call progress messages, short message services, or similar.

A still further object of the invention is to provide predefined codes which can be changed in a rapid and easy manner.

Summary of the invention

These objects are achieved in a method as stated in the preamble, which according to the present invention is characterized by the features as stated in the characterizing clause of the enclosed patent claim 1. In other words, the solution according to the present

invention is to the fact to automatically setting the language on the terminal as in local exchange.

This can be accomplished in different ways. The main
5 issue is, however, that all messages are presented in one language, and that language can be chosen for each user/terminal in question.

More specifically, in order to synchronize the language
10 in the terminal and the language of the local exchange, or vice versa, the present invention is implemented by using predefined codes for each of the languages involved.

15 Further features and advantages of the present method will appear from the following description taken in conjunction with the enclosed drawings, as well as from the further enclosed patent claims.

20 Brief disclosure of the drawings

Fig. 1 is a schematical drawing illustrating a first embodiment of the present invention, wherein the language is set in a terminal, and the local exchange is informed
25 in a roaming procedure.

Fig. 2 is a schematical drawing illustrating a second embodiment of the present invention, wherein the language is set in the terminal, and the local exchange is
30 informed at call establishment.

Fig. 3 is a schematical drawing illustrating a third embodiment of the present invention, wherein the language is set at initialization of the terminal.

35

Detailed description of embodiments

In the following there will be given a few examples of how the synchronisation of language can be implemented according to the present invention. Common to all discribed solutions is that the terminal and the local
5 exchange use predefined codes for each of the languages.

In fig. 1 there is illustrated a terminal communicating with a local exchange, and in this specific embodiment the language is set in the terminal, whereas the local
10 exchange is informed in a roaming procedure.

The user uses the built-in option to select the language to be used in the terminal. When the user performs a roaming procedure, the language code is sent to the local
15 exchange. This embodiment is only applicable to wireless terminals.

In fig. 2 there is also illustrated a terminal communicating with a local exchange, and in this
20 embodiment the language is also set in the terminal, whereas the local exchange is informed thereabout at call establishment.

This solution is basically the same as explained in connection with fig. 1, but the local exchange is here
25 informed at the establishment of a call.

This call could be a "normal call", or it could be a call set up to inform the local exchange of the desired
30 language. This solution is applicable to both wireless and wired terminals.

In fig. 3 there is illustrated a third embodiment of the present invention, wherein a terminal comprising for
35 example a mobile telephone, as well as a personal computer, communicate with a local exchange.

In this embodiment the language is set at initialization of the terminal, i.e. the language of the user is set at initialization of the users data. When the user connects the wired terminal, or perform a roaming procedure with the wireless terminal, the terminal is informed about the language to be used for displaying text.

Advantages

In a multi-lingual environment, it is desirable to be able to select the language in which one wants to communicate. In the present solutions for displaying information, one can select the language for display information for messages generated in the terminal and messages generated in the local exchange independently. The result may be that different information is displayed in different languages.

This solution makes it possible to select the same language for all information displayed.

Broadening

The principles described here may be applicable for all modern telecommunication systems where both the local exchange and the end user terminal have the possibility to generate text information, which is displayed on a terminal. That includes both private and public exchanges, and wired as well as wireless terminals.

These principles may also be applicable to other systems that use text messages generated in different places to communicate with the user. This may be in programs working together internally on a computer, peripherals attached to a computer, etc.

p a t e n t c l a i m s

1. Method for passing information between a local
exchange and a user/terminal, the language used for
5 presenting the information being chosen in the terminal
and the local exchange,
c a r a c t e r i z e d i n that in order to
synchronize the language in the terminal and the language
of the local exchange, or vice versa there are used
10 predefined codes for each of the languages involved.
2. Method as claimed in claim 1,
c a r a c t e r i z e d i n that for the user to
select an appropriate language on the user terminal the
15 terminal user will use the built-in option for this
selection, and that the language code is transmitted from
the terminal to the local exchange during a terminal
roaming procedure.
- 20 3. Method as claimed in claim 1,
c a r a c t e r i z e d i n that for the user to
select an appropriate language on the user terminal, the
terminal user will use the built-in option for this
selection, and that the local exchange is informed at the
25 establishment of a call.
4. Method as claimed in claim 3,
c a r a c t e r i z e d i n that said call is a
normal call, or a call set up to inform the local
30 exchange of the desired language.
5. Method as claimed in claim 4,
c a r a c t e r i z e d i n that the language of the
user is set at initialization of the users data.
35
6. Method as claimed in claim 5,
c a r a c t e r i z e d i n that when the user

connects a wired terminal, or performs a roaming procedure with a wireless terminal, the terminal is informed of the language to be used for this displaying text.

5

7. Method as claimed in any of the preceding claims, characterized in that messages generated in the terminal and messages generated in the local exchange are selected independently.

10

8. Method as claimed in any of the preceding claims, characterized in that different information is selected to be presented in different languages.

15

9. Method as claimed in any of the preceding claims, characterized in that the same language is selected for all information being displayed.

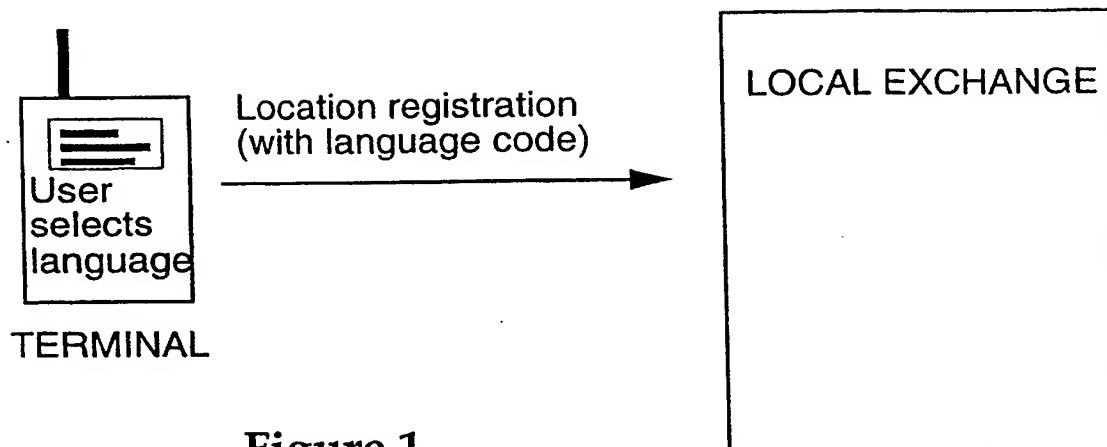


Figure 1

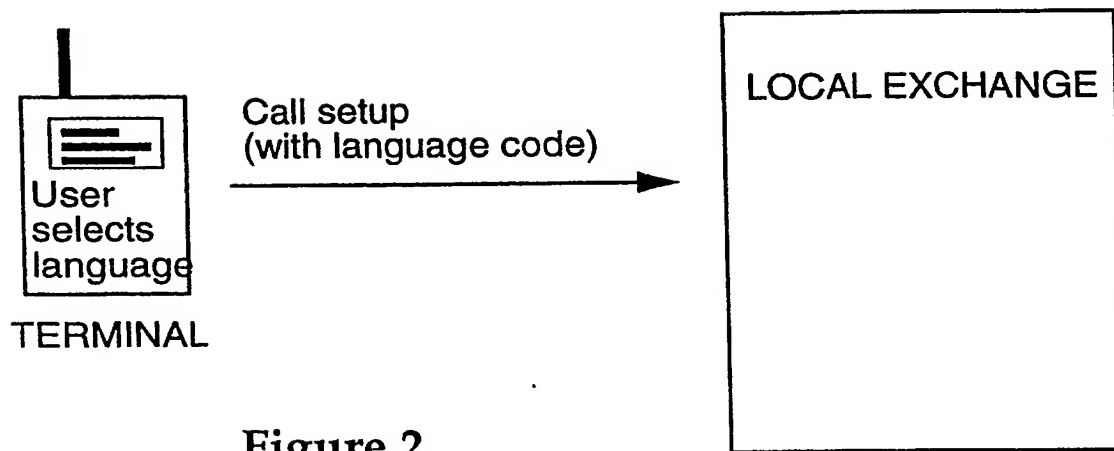


Figure 2

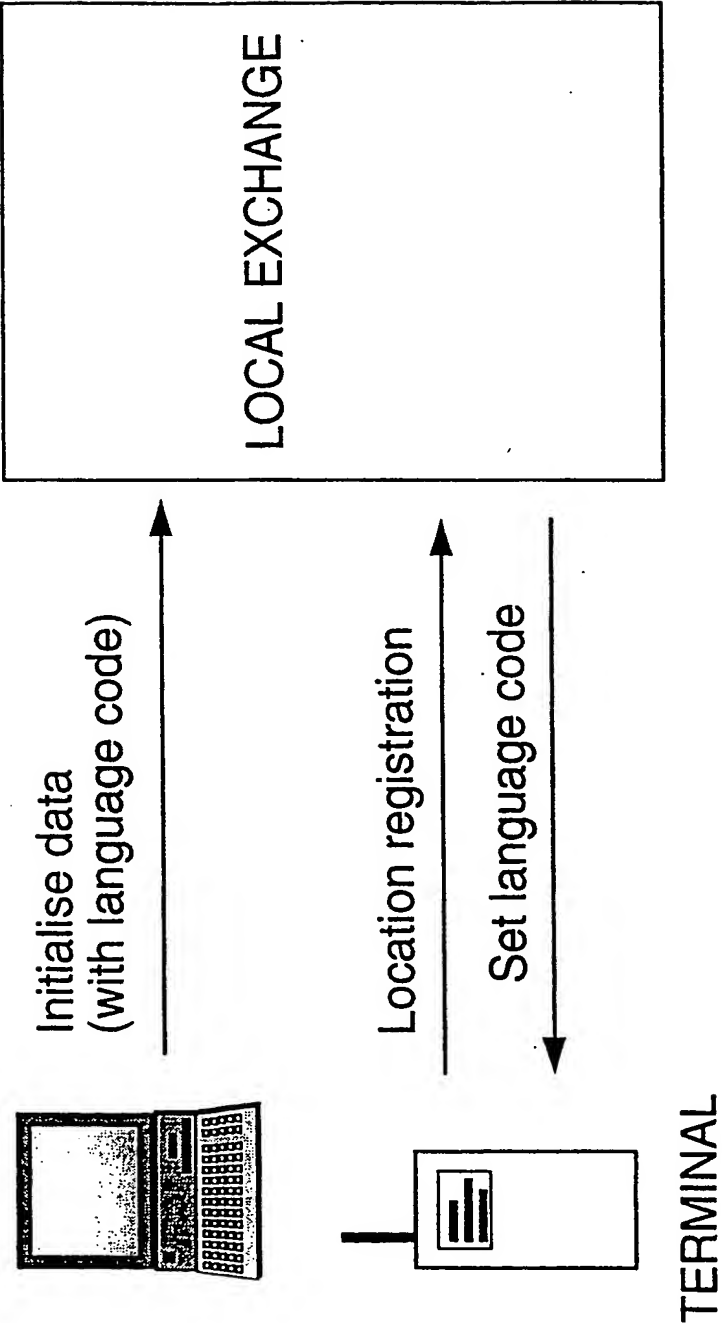


Figure 3

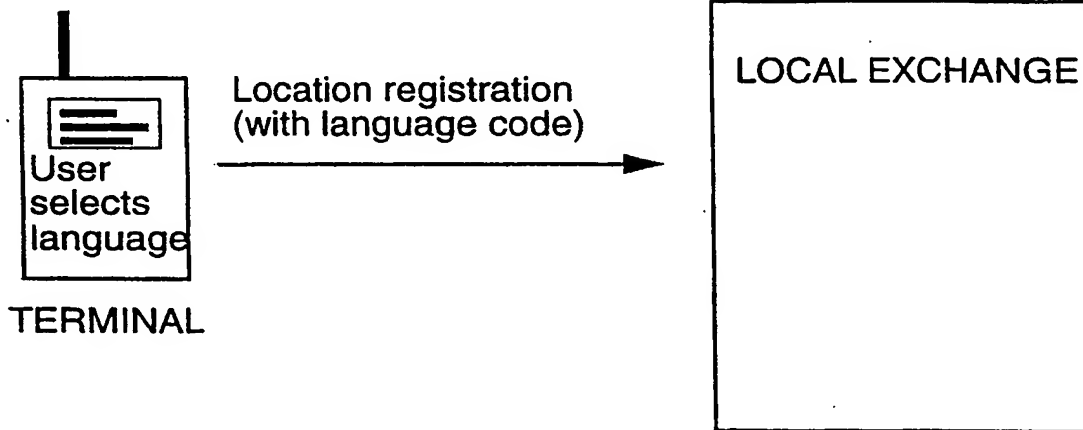
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(54) Title: METHOD FOR PASSING INFORMATION BETWEEN A LOCAL EXCHANGE AND A USER/TERMINAL

**(57) Abstract**

The present invention relates to a method for passing information between a local exchange and a user/terminal. To avoid that messages generated by the terminal and the text generated by the local exchange are presented in different languages, the invention suggests a method to make sure that the language in the terminal and in the local exchange are the same. Predefined codes for each of the languages involved are used. The language may be chosen either in the terminal or in the local exchange.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 47274 A (ERICSSON TELEFON AB L M) 22 October 1998 (1998-10-22) page 1, line 17 - line 23 page 5, line 1 - line 4 page 5, line 22 - line 26 page 5, line 33 -page 6, line 5 page 6, line 20 - line 24 the whole document	1-9
X	WO 97 24862 A (MCI COMMUNICATIONS CORP) 10 July 1997 (1997-07-10) page 2, line 15 -page 3, line 8 page 6, line 23 -page 7, line 19 page 9, line 5 - line 7 page 12, line 19 - line 27 page 16, line 3 - line 15; figures 2-4 --- -/--	1-9

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X	PATENT ABSTRACTS OF JAPAN vol. 009, no. 197 (E-335), 14 August 1985 (1985-08-14) & JP 60 064560 A (FUJITSU KK), 13 April 1985 (1985-04-13) abstract	1-9
A	--- EP 0 654 930 A (AT & T CORP) 24 May 1995 (1995-05-24) abstract -----	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/NO 99/00368

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
WO	9847274	A1	22/10/98	AU	7430998 A	11/11/98
				DE	19715668 A	29/10/98

WO	9724862	A3	10/07/97	US	5841852 A	24/11/98

EP	0654930	A1	24/05/95	AU	682401 B	02/10/97
				AU	7777994 A	25/05/95
				BR	9404667 A	11/07/95
				CA	2134485 A,C	20/05/95
				CN	1111427 A	08/11/95
				JP	7203032 A	04/08/95
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